UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,457	12/27/2001	Dennis E. Smith	82987AEK	8364

7590 08/04/2004

Paul A. Leipold
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER	
AUGHENBAUGH, WALTER	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/033,457	SMITH ET AL.	
	Examiner	Art Unit	
	Walter B Aughenbaugh	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,7-19,21,22,24-40,42 and 43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,7-19,21,22,24-40,42 and 43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendment made in claim 42 in the Amendment filed May 26, 2004 (Amdt. D) has been received and considered by Examiner.

WITHDRAWN REJECTIONS

2. The 35 U.S.C. 103(a) rejection of claims 42 and 43 made of record in paragraph 19 of Paper 6 has been withdrawn due to Applicant's amendment in claim 42 in Amdt. D.

REPEATED REJECTIONS

3. The 35 U.S.C. 103(a) rejection of claims 1, 2, 5, 7, 9-19, 21, 22, 24-26 and 28-39 made of record in paragraph 10 of the Non-final Rejection mailed March 29, 2004 has been repeated for the reasons previously made of record.

4. The 35 U.S.C. 103(a) rejection of claims 8 and 27 made of record in paragraph 11 of the Non-final Rejection mailed March 29, 2004 has been repeated for the reasons previously made of record.

5. The 35 U.S.C. 103(a) rejection of claim 40 made of record in paragraph 12 of the Non-final Rejection mailed March 29, 2004 has been repeated for the reasons previously made of record.

NEW OBJECTIONS

Specification

6. The amendment filed May 26, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not

supported by the original disclosure is as follows: the recitation of claims 1, 21 and 42 that the microbeads have a change in b* value that falls within the claimed range (see 35 U.S.C. 112, first paragraph rejection of claims 1, 21 and 42 below.

Applicant is required to cancel the new matter in the reply to this Office Action.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1, 21 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims recite that the microbeads have a change in b* value that falls within the claimed range, but the specification refers only to the change in b* value of the claimed "continuous first polymer phase having dispersed therein microbeads of a cross-linked second polymer". In the "YELLOWING TEST" described on pages 18-19 of the specification, "test samples" comprising "a microbead-containing layer" containing microbeads and a polyester copolymer binder (i.e. the continuous first polymer phase as claimed) are analyzed to determine the change in b* value (see page 18, lines 11 and 24-30 and page 18, line 31-page 19, line 5), so the change in b* values reported in Table 1 on page 20 of the specification are not the change in b* value of solely the microbeads, but of the "test samples" of the "continuous first polymer

phase having dispersed therein microbeads". The original set of claims does not recite that solely the microbeads have a change in b* value that falls within the claimed range (original claim 20 recites that the "article of claim 1" has a change in b* value that falls within the claimed range), so the recitation that the microbeads have a change in b* value that falls within the claimed range in claims 1, 21 and 42 constitutes new matter. Furthermore, the specification does not describe solely the microbeads as having a change in b* value that falls within the claimed range.

Claim Rejections - 35 USC § 103

9. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier et al. in view of Harrison et al. and in further view of Narita et al.

In regard to claim 42, Maier et al. teach a sheet having a continuous first polymer phase having dispersed therein microbeads of a crosslinked second polymer that are bordered by void space (col. 1, lines 15-19 and col. 7, line 1). Maier et al. teach that acrylic acid, methyl acrylate or methyl methacrylate is a typical monomer for making the crosslinked second polymer for making the microbeads (col. 7, lines 47-52 and Examples 15-18 and 23-26 and col. 17, lines 35-45); the monomers from which the second polymer is derived, acrylic acid, methyl acrylate or methyl methacrylate, therefore, comprise not more than 10 wt% styrenic monomer (i.e. 0 wt% styrenic monomers). Note that acrylic acid, methyl acrylate and methyl methacrylate are acrylic monomers, as acrylates are polymers of acrylic acid or its esters, as evidenced by *Hawley's Condensed Chemical Dictionary*. The compositions taught by Maier et al. have superior thermal stability (col. 3, lines 9-11). In regard to the recitation that the microbeads are thermally stable meaning that the temperature at which the microbeads experience a 2% weight loss is above 270°C, Maier et al. teach the sheet comprising the microbeads as claimed by Applicant having

the same composition as claimed by Applicant, and therefore, the microbeads of Maier et al. are necessarily thermally stable where thermally stable means that the temperature at which the microbeads experience a 2% weight loss is above 270°C, in the absense of objective and convincing evidence to the contrary.

While Maier et al. teach that the article is virtually free of the "yellowing with time" problem that "plagues cellulose-based papers"(col. 5, line 67-col. 6, line 2), Maier et al. fail to explicitly teach that the microbeads have a change in CIELAB value b* towards yellowness on exposure to UV light wherein the change in b* is less than or equal to 0.2. Maier et al. also fail to teach that the sheet is a dye diffusion thermal transfer dye receiving sheet.

Harrison et al. disclose a dye diffusion thermal transfer dye receiving element comprising a support comprising a continuous oriented polymer matrix having dispersed therein microbeads of a cross-linked polymer which are at least partially bordered by void space (col. 2, lines 23-31). Harrison et al. disclose that the dye-receiving element is shaped in sheet form (col. 9, lines 58-60). Therefore, one of ordinary skill in the art would have recognized to have used the sheet of Maier et al. as a dye diffusion thermal transfer dye receiving sheet since it is notoriously well known to use a sheet comprising a continuous polymer matrix having dispersed therein microbeads of a cross-linked polymer which are at least partially bordered by void space such as the sheet of Maier et al. as a dye diffusion thermal transfer dye receiving sheet as taught by Harrison et al.

Narita et al., furthermore, disclose a receptor layer of a dye diffusion thermal transfer dye receiving sheet (col. 4, lines 17-25, col. 1, lines 15-40 and col. 6, lines 36-38) in which the b* value, which represents the yellowness of the layer, is tailored to be from -5 to 5, inclusive of -5

and 5, where a larger (more positive) b* value indicates a higher degree of yellowness (col. 10, lines 45-62). Narita et al. disclose that by appropriately incorporating coloring materials such as pigments, dyes and fluorescent whitening agents, the desired color is produced to match the color of the corresponding printing paper (col. 10, lines 36-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimal amounts and types of coloring materials to add to the second polymer of Maier et al. via routine experimentation in order to minimize yellowing to a degree as indicated by the change in b* value depending on the end user-result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

ANSWERS TO APPLICANT'S ARGUMENTS

10. Applicant's arguments on page 7 of Amdt. D regarding the 35 U.S.C. 103(a) rejection of claims 42 and 43 made of record in paragraph 19 of Paper 6 are moot due to the new 35 U.S.C. 103(a) rejection of claims 42 and 43 made of record in this Office Action.

11. Applicant's arguments regarding Narita et al. provided on pages 8-9 of Amdt. D have been fully considered but are not persuasive. Applicant argues that "There is no teaching, disclosure, or suggestion in Narita et al. that incorporation of any coloring materials into the dye receptor layer can effect properties of microbeads..." but as paragraph 10 of the previous Office Action states, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimal amounts and types of coloring materials to add to the second polymer of Maier et al. via routine experimentation in order to minimize yellowing to a degree as indicated by the change in b* value depending on the end user-result.

As Narita et al. adds the coloring material to the polymeric material of the dye receptor layer, one of ordinary skill in the art would have recognized to have added the coloring material to the second polymer of the microbeads of Maier et al. in order to minimize yellowing to a degree as indicated by the change in b* value depending on the end user-result.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh
07/28/04 WBA

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

7/29/04